



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/843,437	04/26/2001	Rogelio Delgado JR.	3838-33689	9358
7590	07/09/2004		EXAMINER	
Daniel L. Boots, Esq. BINGHAM SUMMERS WELSH & SPILMAN LLP 2700 Market Tower 10 West Market Street Indianapolis, IN 46204-2982			LE, HUYEN D	
			ART UNIT	PAPER NUMBER
			2643	3
DATE MAILED: 07/09/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)
	09/843,437	DELGADO, ROGELIO
Examiner	Art Unit	
HUYEN D. LE	2643	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on ____.
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) Claim(s) ____ is/are allowed.
- 6) Claim(s) 1-34 is/are rejected.
- 7) Claim(s) ____ is/are objected to.
- 8) Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on ____ is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some * c) None of:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. ____.
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 2.
- 4) Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) Notice of Informal Patent Application (PTO-152)
- 6) Other: ____.

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the array of acoustic horn assemblies (claims 30-34) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasajima et al. (U.S. patent 5,432,860).

Regarding claims 1-4, 6-7 and 23-26, Kasajima teaches a method and apparatus of an acoustic horn assembly that comprises an acoustic horn (36, 48, 60, figures 5, 9, 11-13) for generating a sound pressure level at a given frequency (col. 4, lines 62-68), and sound absorbing material (40-1, 40-2, 50-1, 50-2, 52-1, 52-2, 60) as claimed. As shown in the drawings, the sound absorbing material is disposed in close proximity to the acoustic horn.

Kasajima does not specifically teach the sound absorbing material for assisting the acoustic horn in placing the optimal sound pressure level as claimed. However, Kasajima does teach the relationship between the frequency of the speaker system and the sound pressure level.

Since Kasajima does teach the sound absorbing material adjacent to the horn, it therefore would have been obvious to one skilled in the art to provide the sound absorbing material in Kasajima in any desired location in close proximity to the horn (36, 48, 60) for assisting the horn in placing the optimal sound pressure level as claimed. This would provide the improved frequency characteristics and sound coverage field for the system.

Regarding claims 5 and 21, Kasajima does not specifically teach the sound pressure levels as claimed. However, it would have been obvious to one skilled in the art to provide any level for the sound pressure in the Kasajima system such as the sound absorbing material that decreases the sound pressure level beyond the first -6 dB down angle for the desired sound pressure levels and the desired frequency characteristics.

Regarding claims 8 and 10, the acoustic horn of Kasajima is constructed of wood or plastic material (col. 3, lines 49-50).

Regarding claim 9, Kasajima does not teach the horn that is constructed of fiberglass material as claimed. However, Kasajima does teach different kinds of materials that could be constructed for the horn (col. 3, lines 49-51).

Therefore, it would have been obvious to one skilled in the art to provide a different type of material such as fiberglass material for an alternate choice and providing the desired frequency characteristics for the system.

Regarding claims 27-29, Kasajima does not teach the sound absorbing material that is defined by open cell or reticulated foam as claimed. However, Kasajima does teach different kinds of materials that could be made for the sound absorbing material (col. 3, lines 45-46, col. 4, lines 42-44 and col. 6, lines 45-46). Further, providing an open cell foam for the sound absorbing material is known in the art.

Therefore, it would have been obvious to one skilled in the art to provide a different type of material such as an open cell or reticulated foam for an alternate choice and providing the desired frequency characteristics for the system.

Regarding claims 11-20 and 22, Kasajima teaches an acoustic horn assembly that comprises an acoustic horn (36, 48, 60) for generating a sound pressure level at a given frequency (col. 4, lines 62-68), sound absorbing material (40-1, 40-2, 50-1, 50-2, 52-1, 52-2, 60), and a cabinet enclosure (32) as claimed figures (5, 9, 11-13). As shown in the drawings, the sound absorbing material is disposed in close proximity to the acoustic horn.

Kasajima does not specifically teach the sound absorbing material for assisting the acoustic horn in placing the optimal sound pressure level as claimed. However, Kasajima does teach the relationship between the frequency of the speaker system and the sound pressure level.

Since Kasajima does teach the sound absorbing material adjacent to the horn, it therefore would have been obvious to one skilled in the art to provide the sound absorbing material in Kasajima in any desired location in close proximity to the horn (36, 48, 60) for assisting the horn in placing the optimal sound pressure level as claimed. This would provide the improved frequency characteristics and sound coverage field for the system.

Regarding claims 30-34, Kasajima teach one acoustic horn assembly that comprises the acoustic horn and the sound absorbing material as mentioned above. Kasajima does not specifically disclose a plurality of horn assemblies as claimed. However, it would have been obvious to one skilled in the art to provide multiple acoustic horn assemblies that are constructed in an array for providing a powerful speaker system.

Conclusion

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

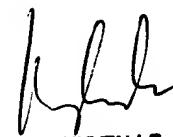
Morikawa et al. (U.S. patent 5,115,883) teaches a sound absorptive panel (14) on the outside of the horn shaped baffle (13).

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to HUYEN D. LE whose telephone number is (703) 305-4844. The examiner can normally be reached on 9:30AM-6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, CURTIS KUNTZ can be reached on (703) 305-4708. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

HL
June 25, 2004



HUYEN LE
PRIMARY EXAMINER